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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,594	07/15/2003	Motoshige Hibino	P66091US1	6867

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EXAMINER	
PATTERSON, MARC A	

ART UNIT	PAPER NUMBER
1772	

DATE MAILED: 05/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/618,594	HIBINO ET AL.	
	Examiner	Art Unit	
	Marc A Patterson	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5,7-9,21-23 and 25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5,7-9,21-23 and 25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 7 is objected to because of the following informalities: The meaning of the term 'major' is unclear. For purposes of examination, the term will be interpreted to mean any surface. Appropriate correction is required.

WITHDRAWN REJECTIONS

2. The 35 U.S.C. 102(b) rejection of Claim 7 as being anticipated by Kanao (U.S. Patent No. 4,862,924), of record on page 2 of the previous Action, is withdrawn.

NEW REJECTIONS

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 – 3 and 21 – 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Kanao (U.S. Patent No. 4,862,924).

With regard to Claim 23, Kanao discloses a hose (pipe; column 3, line 3) having a wall (outer wall; column 2, line 41) corrugated along its length (the outer wall comprises a series of U – shaped portions, and therefore comprises a series of ridges and grooves and is therefore corrugated; column 2, lines 49 – 51; Figure 1), comprising an inner resin layer (inner pipe wall;

column 5, lines 21 – 22) and a layer having a metal film held between two resin films (a belt member which comprises a metal band lined on its inner and outer surfaces with a resin material coating; column 6, lines 50 – 53), which is therefore a laminated layer, and surrounding the inner layer (the belt member is integrally fused with the inner layer; column 2, lines 43 – 45) and an outer resin layer surrounding the laminated layer (a coating pipe wall on the periphery of the tube; column 5, lines 24; Figure 6); the outer pipe wall is fused with the inner pipe wall (column 2, lines 43 – 45), and the wall is therefore corrugated along a unitary part of its length that is in one piece.

With regard to Claim 1, the outer pipe wall is fused with the inner pipe wall (column 2, lines 43 – 45), thereby forming a wall which has a longitudinally continuous unitary corrugated smooth surface.

With regard to Claim 2, the laminated layer is a spirally wound layer (helically wound layer; column 2, line 43) and is therefore applied as a tape.

With regard to Claim 3, the inner layer and laminated layer as integrally fused (column 2, lines 43 – 45); the laminated layer therefore acts as its own adhesive.

With regard to Claims 21 – 22, the inner layer has a thickness of 300 μm – 3000 μm (column 3, lines 39 – 40).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanao (U.S. Patent No. 4,862,924).

Kanao discloses a hose having a laminated tape as discussed above. Kanao fails to disclose a laminated tape having a thickness of less than 200 μm and a thickness less than 5 mm and a thickness of the outer layer from 50 μm to 5 mm. However, Kanao discloses a laminated tape having a thickness of 300 μm – 3000 μm (column 3, lines 39 – 40) and teaches inner and outer layers having a thin layer thicknesses (column 5, lines 66 – 68) and teaches that the layers are selected for resistance to deterioration owing to changes in the weather (column 3, lines 25 – 28). Therefore, one of ordinary skill in the art would have recognized the utility of varying the thicknesses of the layers to obtain a desired weather resistance. Therefore, the weather resistance would be readily determined through routine optimization of the thicknesses by one having ordinary skill in the art depending on the desired end use of the product.

It therefore would be obvious for one of ordinary skill in the art to vary the thickness in order to obtain a desired weather resistance, since the weather resistance would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Kanao.

Therefore, the thickness of the layers would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the thicknesses, since the thicknesses would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Kanao.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanao (U.S. Patent No. 4,862,924) in view of Schave et al (U.S. Patent No. 6,049,658).

Kanao discloses a hose having a laminated tape as discussed above. Kanao fails to disclose a laminated tape comprising aluminum.

Schave et al teach the use of aluminum strips in the making of corrugated hose, for the purpose of making a hose having increased crush resistance (column 6, lines 15 – 26). Therefore, one of ordinary skill in the art would have recognized the advantage of providing the aluminum of Schave et al in Kanao, which is a corrugated hose, depending on the desired crush resistance of the end product as taught by Schave et al.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for aluminum of Schave et al in Kanao in order to make a hose having increased crush resistance as taught by Schave et al.

Kanao fails to disclose a laminated tape having a thickness of 7 μm – 200 μm. However, Kanao discloses a laminated tape having a thickness of 300 μm – 3000 μm (column 3, lines 39 – 40) and teaches inner and outer layers having thin layer thicknesses (column 5, lines 66 – 68) and teaches that the layers are selected for resistance to deterioration owing to changes in the weather (column 3, lines 25 – 28). Therefore, one of ordinary skill in the art would have recognized the utility of varying the thicknesses of the layers to obtain a desired weather resistance. Therefore, the weather resistance would be readily determined through routine optimization of the thicknesses by one having ordinary skill in the art depending on the desired end use of the product.

It therefore would be obvious for one of ordinary skill in the art to vary the thickness in order to obtain a desired weather resistance, since the weather resistance would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Kanao.

Therefore, the thickness of the layers would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the thicknesses, since the thicknesses would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Kanao.

8. Claims 7 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanao (U.S. Patent No. 4,862,924) in view of Kanao (U.S. Patent No. 4,800,928).

Kanao '924 discloses a corrugated hose having a longitudinally continuous one – piece surface as discussed above. With regard to Claims 7 and 25, Kanao '924 fails to disclose a hose having an uninterrupted and smooth surface.

Kanao '928 teaches the interchangeable use of an uninterrupted surface (having cords inserted into gaps between corrugated bands, and bonded to the bands; column 2, lines 56 – 66; column 3, lines 3 – 7) and a surface that is not uninterrupted (the inserted cords are used in an alternative embodiment, and therefore gaps not having cords inserted are also disclosed; column 2, lines 56 – 66) in a corrugated hose (corrugated pipe; column 1, lines 58 – 63) for the purpose of obtaining a hose having good flexibility (column 1, lines 13 – 18). One of ordinary skill in the art would therefore have recognized the advantage of providing for the uninterrupted surface of

Kanao '928 in Kanao '924, which is a corrugated hose, depending on the desired flexibility of the end product.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for an uninterrupted, therefore smooth, surface in Kanao '924 in order to obtain a hose having good flexibility as taught by Kanao '928.

9. Claims 8 – 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kanao (U.S. Patent No. 4,862,924) in view of Kanao (U.S. Patent No. 4,800,928) and further in view of Schave et al (U.S. Patent No. 6,049,658).

Kanao '924 and Kanao '928 disclose a hose having a metal layer, as discussed above. With regard to Claim 8, the metal layer is fused, and therefore bonded with an adhesive, as discussed above. With regard to Claim 9, Kanao '924 and Kanao '928 fail to disclose a metal layer comprising aluminum film.

Schave et al teach the use of aluminum strips, therefore aluminum film, in the making of corrugated hose, for the purpose of making a hose having increased crush resistance (column 6, lines 15 – 26). Therefore, one of ordinary skill in the art would have recognized the advantage of providing the aluminum of Schave et al in Kanao '924 and Kanao '928 which is a corrugated hose, depending on the desired crush resistance of the end product as taught by Schave et al.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for aluminum of Schave et al in Kanao '924 and Kanao '928 in order to make a hose having increased crush resistance as taught by Schave et al.

Kanao '924 and Kanao '928 also fail to disclose a metal layer having a thickness of 7 μm – 200 μm. However, Kanao '924 discloses a metal layer having a thickness of 300 μm – 3000 μm (column 3, lines 39 – 40) and teaches inner and outer layers having thin layer thicknesses (column 5, lines 66 – 68) and teaches that the layers are selected for resistance to deterioration owing to changes in the weather (column 3, lines 25 – 28). Therefore, one of ordinary skill in the art would have recognized the utility of varying the thicknesses of the layers to obtain a desired weather resistance. Therefore, the weather resistance would be readily determined through routine optimization of the thicknesses by one having ordinary skill in the art depending on the desired end use of the product.

It therefore would be obvious for one of ordinary skill in the art to vary the thickness in order to obtain a desired weather resistance, since the weather resistance would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Kanao.

Therefore, the thickness of the layers would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end use of the product. It therefore would be obvious for one of ordinary skill in the art to vary the thicknesses, since the thicknesses would be readily determined through routine optimization by one having ordinary skill in the art depending on the desired end result as shown by Kanao.

ANSWERS TO APPLICANT'S ARGUMENTS

10. Applicant's arguments regarding the 35 U.S.C. 102(b) rejection of Claims 1 – 3, 7, and 21 – 23 as being anticipated by Kanao (U.S. Patent No. 4,862,924), 35 U.S.C. 103(a) rejection of

Claim 4 as being unpatentable over Kanao (U.S. Patent No. 4,862,924), 35 U.S.C. 103(a) rejection of Claims 5 and 8 – 9 as being unpatentable over Kanao (U.S. Patent No. 4,862,924) in view of Schave et al (U.S. Patent No. 6,049,658), of record in the previous Action, have been carefully considered but have not been found to be persuasive for the reasons set forth below.

Applicant also argues, on page 8 of the remarks dated February 1, 2005, that restriction between Claim 24 and Applicant's product claims is inappropriate.

However, no new restriction has been made; Claim 24 is dependent on non – elected Claim 12, and therefore also has non – elected status.

Applicant also argues, on page 10, that Kanao does not disclose a metal film held between two resin films, Kanao does not disclose thin layers.

However, the layer comprising metal band member disclosed by Kanao has a thickness of 0.3 mm (column 3, line 40), and is therefore a thin layer; the layer, furthermore, is flexible (bandage – like; column 3, lines 46 – 49) and is helically wound as discussed above. The resin coatings disclosed by Kanao, because they are coatings, are clearly also films.

Applicant also argues, on page 10, that Kanao has gaps on its surface and will cause insufficient impermeability; the claimed invention, Applicant argues, has a unitary (one – piece) surface.

However, as stated above, the pipe wall disclosed by Kanao is unitary; furthermore, the outer pipe wall is fused with the inner pipe wall (column 2, lines 43 – 45), thereby forming a wall which has a longitudinally continuous unitary corrugated surface. It is also unclear why, if Applicant considers the terms 'unitary' and 'one – piece' to be synonymous as indicated, the terms are used sequentially in newly submitted Claim 25.

Applicant also argues that the thickness requirement of Claim 4 is less than that of Kanao.

However, as stated above, Kanao disclose a thickness of 300 μm.

Applicant also argues, on page 11, that changes in the weather have no relationship to needs addressed by the claimed invention.

However, as stated above, Kanao discloses a laminated tape having a thickness of 300 μm – 3000 μm (column 3, lines 39 – 40) and teaches inner and outer layers having a thin layer thicknesses (column 5, lines 66 – 68) and teaches that the layers are selected for resistance to deterioration owing to changes in the weather (column 3, lines 25 – 28). Therefore, one of ordinary skill in the art would have recognized the utility of varying the thicknesses of the layers to obtain a desired weather resistance.

Applicant also argues on page 11 that Schave does not teach a the structure called for by Claim 5 and does not teach a spirally wound layer.

However, as stated above, Schave et al teach the use of aluminum strips in the making of corrugated hose, for the purpose of making a hose having increased crush resistance (column 6, lines 15 – 26). Therefore, one of ordinary skill in the art would have recognized the advantage of providing the aluminum of Schave et al in Kanao which is a corrugated hose, depending on the desired crush resistance of the end product as taught by Schave et al.

It therefore would have been obvious for one of ordinary skill in the art at the time Applicant's invention was made to have provided for aluminum of Schave et al in Kanao in order to make a hose having increased crush resistance as taught by Schave et al.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marc A Patterson whose telephone number is 571-272-1497. The examiner can normally be reached on Mon - Fri 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Marc Patterson

Marc A. Patterson, PhD.
Examiner
Art Unit 1772

HAROLD PYON
SUPERVISORY PATENT EXAMINER
1772

4/28/05